

Phase One 190MP: experience in Russia.

CEO

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FROM IMAGERY TO DIGITAL REALITY:

ERS & Photogrammetry

Crete, Greece 2018

Phase One 190MP



Components:

- PhaseOne IXU-RS1900 aerial camera;
- PC IX Controller MKIII;
- Gyro stabilized platform Somag DSM 400;
- GNSS Applanix POS AVX 210



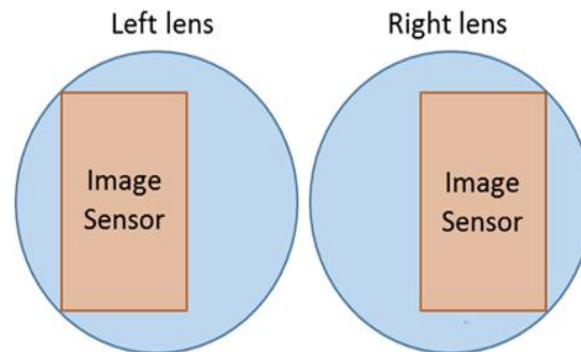
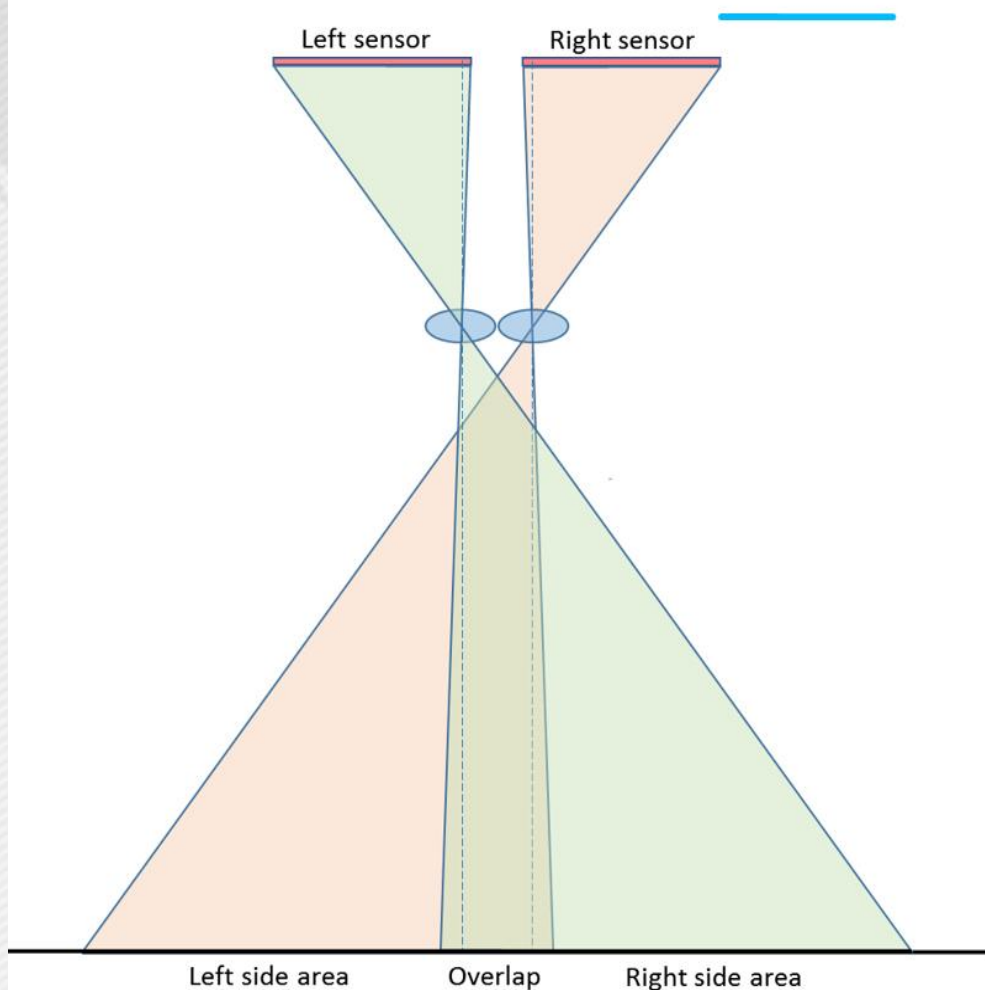
УРАЛГЕОИНФОРМ

Phase One iXU-RS1900 optic scheme



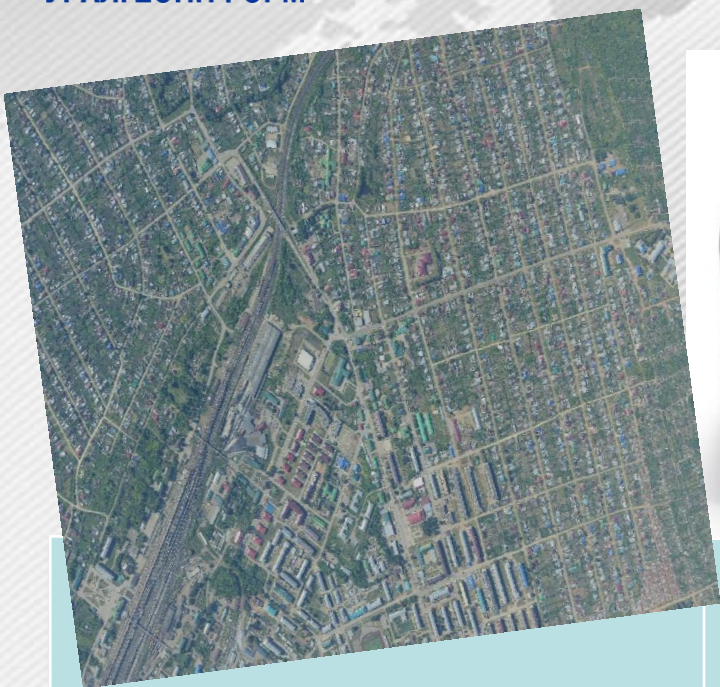
РОСКАРТОГРАФИЯ

Phase One iXU-RS1900 – Image Formation Principles



iXU-RS1900

Comparison of characteristics



RCD 30,
Medium
format



DMS II 250,
Large format



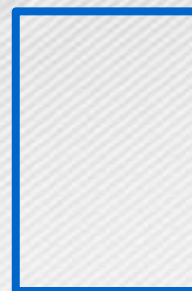
PhaseOne IXU-
RS1900, medium
format

Frame size, pix

8 956 x 6 708

16 768 x 14 016

16 470 x 11 540





УРАЛГЕОИНФОРМ

Surveying in 2018

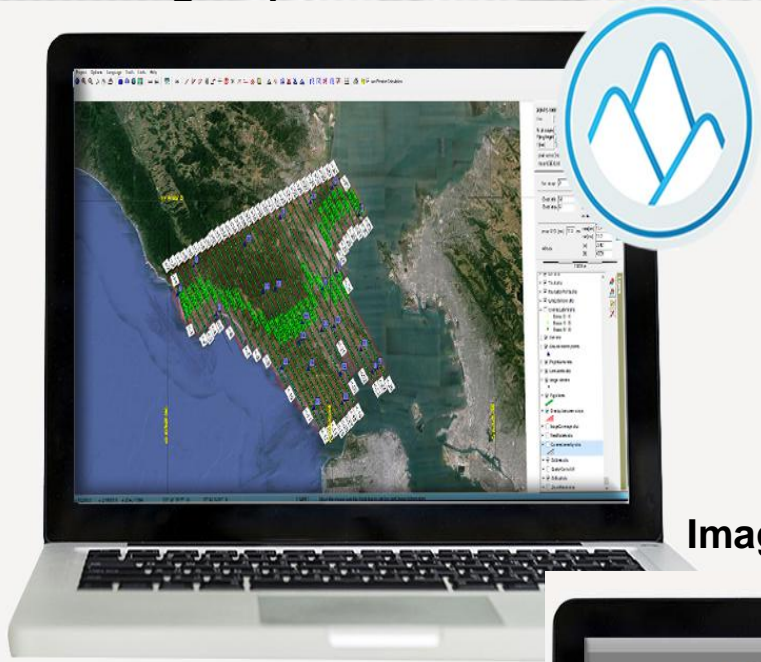


РОСКАРТОГРАФИЯ

Aerial surveying tasks	GSD, см	Overlap, %	Area, sq. km
Topomapping stereo survey of cities with > 1 mln. citizens	10	80x40	2 069
Orthophotomaps of urban and rural areas	15	60x30	9 654



Flight operation



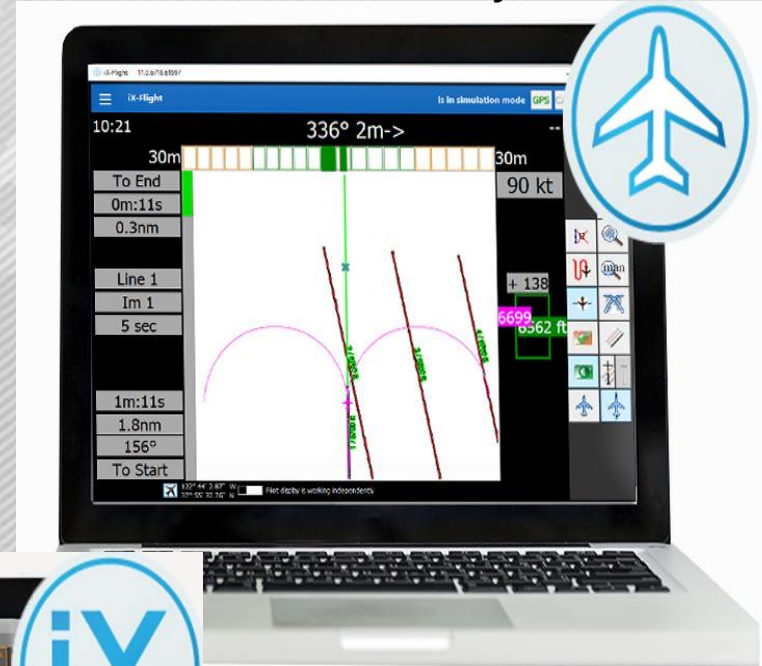
iX Plan

Image processing



iX Capture

Aerial survey



iX Flight



УРАЛГЕОИНФОРМ

Aerial survey

Flight planning



РОСКАРТОГРАФИЯ

iX-Plan C:\Users\kom\Desktop\Проекты Новосиб Уфа\2018_Novosib\2018_Novosib\iX-Plan.ttkgp

Project Options Language Tools Links Help

use Precise Calculation

PHASE ONE INDUSTRIAL

iX-Plan
Version: 11.1.1.0

25000 m

- Lines.shp
- Аэроаэоа ллннеа_аоо_200.shp
- ProjectArea.shp
- Grid.shp
- LineLabels.shp
- image centers
- Flight lines
- Ground control points
- Overlap between strips

x: 642376.7 y: 6116185.8 z: 214m / 702ft 83° 14' 7.75" E 55° 10' 18.36" N 1:333703

Raw data processing

iX Capture software



RECIPE NAME: 661_CAP

PREFIX NAME: *Leave empty to use source file name*

SYSTEM: RGB

CAMERA: MULTI HEAD

OUTPUT FILE TYPE: Tiff

SAVE TO FOLDER: D:\2018_УФА


TIFF OPTIONS

OUTPUT PROFILE: Adobe RGB (1998)

BITS: 8

TILE SIZE: NONE

COMPRESSION: NONE

 PROCESSES

OUTPUT OPTIONS

RGB

NIR

DISTORTION CORRECTED RGB

DISTORTION CORRECTED NIR

3 BAND CIR

4 BAND CIR


NDVI

CALIBRATIONS

	RGB	NIR
CAMERA S/N		
PIXEL SIZE (mm)	0	0
FOCAL LENGTH (mm)	0	0
XP (mm)	0	0
YP (mm)	0	0
K1	0	0
K2	0	0


[SELECT IMAGES](#) [SELECT DIRS](#)




1 imported


 PAUSE PROCESSES

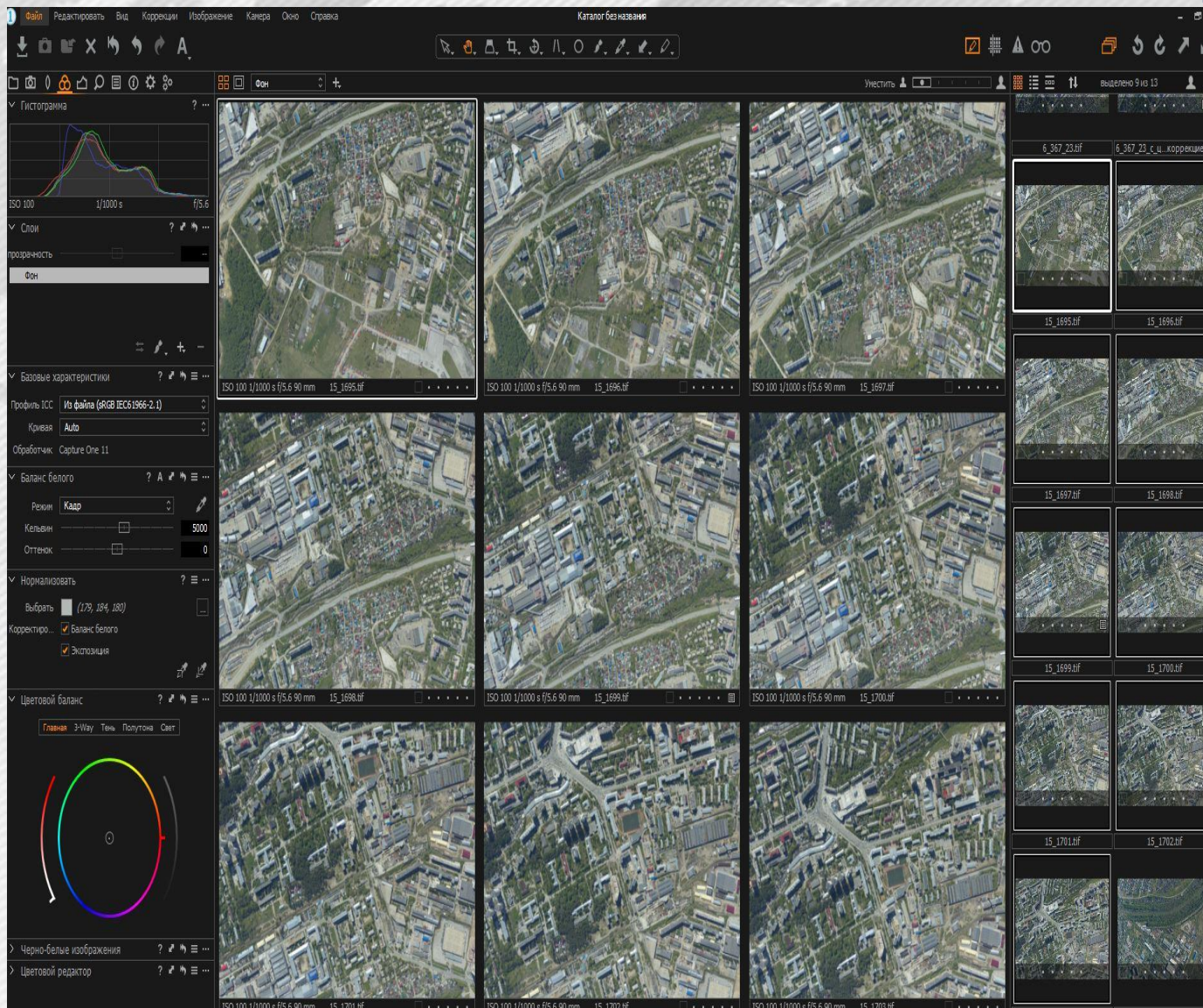
CURRENT JOB:

PHASE: Fusion

 SETTINGS

	RGB IIQ	STATUS	JOB DETAILS
+	661_CAP	1 OF 1 	
-	517	0 OF 1 	
	Vol_14.IIQ	 	

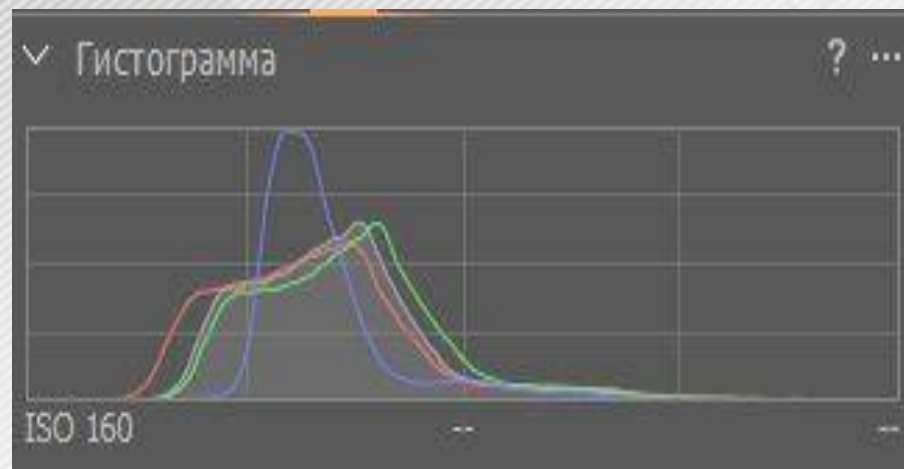
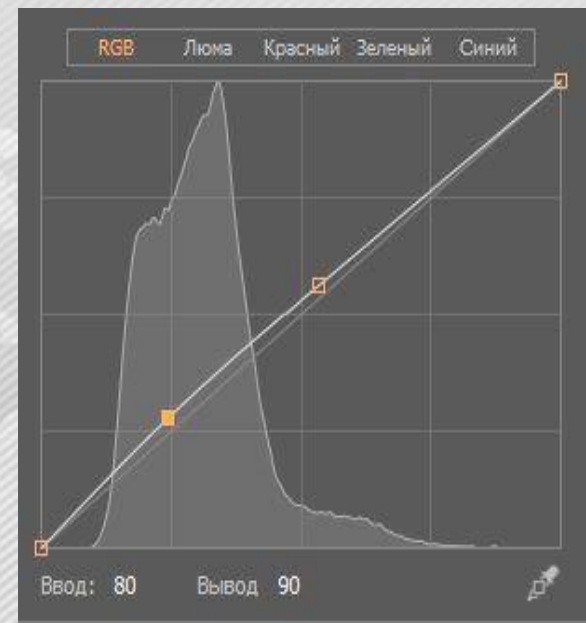
 PROCESSES



The screenshot displays the Adobe Photoshop interface with a focus on raw data processing. The main workspace is filled with a grid of 18 aerial photographs of a city, arranged in a 3x6 grid. The top-left panel shows the Histogram and Tonal Curves tool, with the Histogram tab active. The Histogram shows a distribution of pixel values across the color spectrum. The Tonal Curves panel shows the default S-curve. The right side of the interface shows the Layers panel with a stack of adjustment layers, including a Color Balance layer and a Curves layer. The bottom-left panel shows the Color Balance tool, which is used to adjust the color balance of the image. The top-right panel shows the Properties panel with various settings for the active layer.

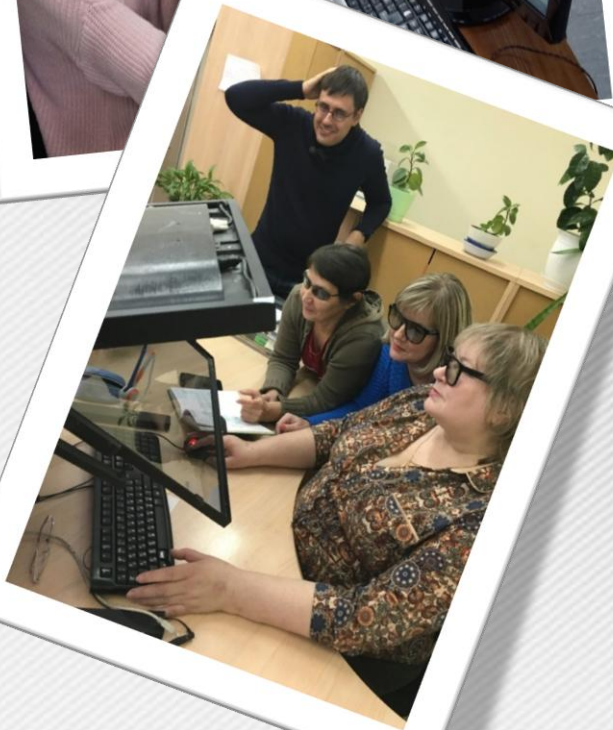
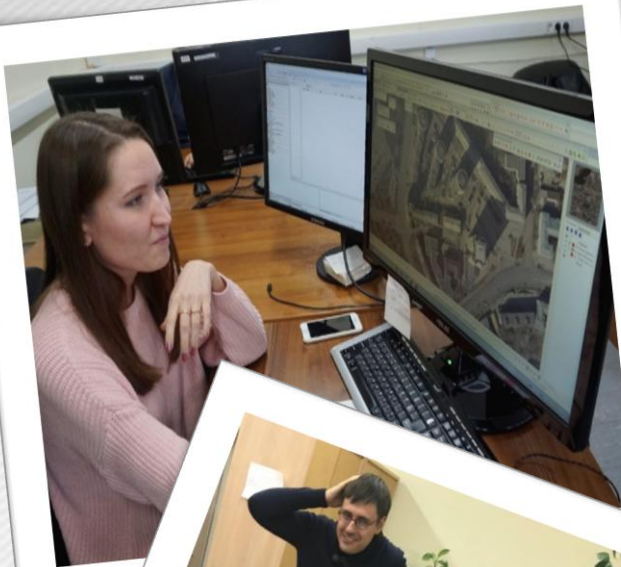
Easily interpretation of:

- linear objects (road marking, etc., coastline, pipelines, etc.);
- local objects (supports and poles of transmission lines and shadows from them, hatches, details of roofs, crosswalks marks, etc.).



Hardware and software tests and experiments

- **Aerial images processing in PHOTOMOD** (500 m altitude, 5 cm GSD) for 3D model creation (point cloud)
- **Analysis of the increase in labor costs** of photogrammetric aerial images processing with a longitudinal overlap of 80% and a side overlap of 40% compared with the work performed in 2017.
- Testing the speed and quality (accuracy) of the adjustment with an overlap of 80% by 40% in comparison with the thinned block with an overlap of 60% by 40%.
- Testing the capabilities of PHOTOMOD software for TrueOrtho creating based on aerial survey with longitudinal overlap of 80%.





РОСКАРТОГРАФИЯ



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